

Ashar UL Huda

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EDUCATION

University of California, Irvine

Irvine, CA

B.S. in Software Engineering and Informatics, Specializing in Human-Computer Interaction Sept. 2022 – June 2026

EXPERIENCE

Backend Software Engineer — Senior Capstone

Jan. 2026 – June 2026

Champions Funding (Sponsor)

Irvine, CA

- Built FastAPI backend services for LoanFit CoPilot, an AI loan-assistant platform that screens borrower scenarios against loan-product requirements such as FICO, occupancy, documentation type, DSCR, and LTV.
- Developed backend logic for a two-agent workflow, passing structured borrower and loan context from a Copilot agent to a Coach agent that identifies qualification gaps and suggests improvement paths.
- Modeled MongoDB collections for borrower sessions, agent message history, and uploaded loan documents to support persistent multi-turn conversations.
- Defined REST API contracts and JSON payloads that connected backend agent responses with React + TypeScript chat sessions and document data.

Undergraduate Teaching Assistant

Jan. 2026 – June 2026

University of California, Irvine

Irvine, CA

- Taught 100+ students foundational and intermediate programming concepts, including object-oriented programming, functional programming, debugging, and algorithmic problem-solving across weekly labs and office hours.
- Supported course instruction by developing materials, grading assignments, and providing targeted feedback to improve student outcomes.

PROJECTS

Pirate Search Engine | *Python, NLTK, Streamlit, Inverted Index, tf-idf, PageRank, SimHash*

- Engineered Python post-index processing routines for a large ICS web corpus of roughly 55,000 documents, scanning a byte-offset inverted index to generate bookkeeping artifacts loaded by the query engine at startup.
- Improved query-time performance by precomputing tf-idf and PageRank offline and applying SimHash-based near-duplicate detection, moving expensive computation off the query path.
- Built search pipeline components across corpus processing, indexing, ranking, and the Streamlit query interface, with a focus on post-index data generation and ranking artifacts.

Trailblazer – Biking Trail Finder | *React, JavaScript, MongoDB Atlas Data API, RapidAPI, Google Maps API, axios*

- Built the data layer for a biking-trail finder web app during IrvineHacks Winter 2024, integrating RapidAPI TrailAPI with zip-code geocoding and difficulty-filtering logic on API responses.
- Implemented MongoDB Atlas Data API CRUD operations for user records and saved-trail favorites, avoiding a custom Express backend and reducing hackathon development overhead.
- Connected API results to React frontend components, rendering filtered trails in a Bootstrap/Ant Design carousel with Google Maps location markers.

SportsPlayerScout – Multi-Agent AI Code Generator | *Python, LangGraph, MCP/FastMCP, Google Gemini 2.5, Gradio*

- Developed a 3-agent AI code-generation system where Analyzer, Developer, and Tester agents translate natural-language requirements into runnable Python code and test cases.
- Integrated Google Gemini 2.5 Flash with a LangGraph + FastMCP workflow, enabling iterative code generation, review, and testing loops across agents.
- Implemented the Gradio interface for prompt intake, generated-code display, end-to-end execution flow, and reproducible setup documentation.

TECHNICAL SKILLS

Languages: Python, C++, Java, JavaScript, TypeScript, SQL, HTML/CSS

Frameworks & Libraries: React.js, Node.js, FastAPI, Bootstrap, Vite, NumPy, PyTorch, OpenCV, NLTK, Gradio, LangGraph

Databases & Tools: MongoDB, MongoDB Atlas Data API, REST APIs, Git, GitHub, Azure, Jupyter Notebook, Figma, Google Maps API, RapidAPI, MCP/FastMCP